

Docket No.: 9988.175.00  
(PATENT)

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

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In re Patent Application of:  
Seok Kyu PARK

Customer No.: 30827

Application No.: 10/516,604

Confirmation No.: 7108

Filed: December 3, 2004

Art Unit: 1792

For: METHOD FOR CLEANING TUB OF  
WASHING MACHINE

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Examiner: GOLIGHTLY, Eric  
Wayne

**Mail Stop Appeal Brief - Patents**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

**APPEAL BRIEF**

Sir:

In response to the Final Rejection of all pending claims mailed on February 18, 2010, and in support of the Notice of Appeal filed April 16, 2010, Appellant hereby submits this Appeal Brief.

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This brief contains items under the following headings as required by 37 C.F.R. § 41.37(c):

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**I. REAL PARTY IN INTEREST**

The real party in interest for this appeal is: LG Electronics Inc., the assignee of record.

## **II. RELATED APPEALS AND INTERFERENCES**

Appellant states that they have no knowledge of any prior or pending appeals, judicial proceedings, or interferences, which may be related to, directly affect or be directly affected by, or have a bearing on the Board's decision in this appeal.

### **III. STATUS OF CLAIMS**

Total Number of Claims in the Application:

There are 35 claims pending in the application.

Current Status of Claims:

Claims canceled: 6 and 36-40

Claims withdrawn from consideration but not canceled: None.

Claims pending: 1-5, 7-35, and 41

Claims allowed: None

Claims objected to: 1-5 and 10

Claims rejected: 1-5, 7-35, and 41

Claims on Appeal: 1-5, 7-35, and 41

#### **IV. STATUS OF AMENDMENTS**

An Amendment under 37 C.F.R. §41.33 was filed on April 21, 2010. Claims 1-5 and 10 were amended to correct minor informalities. The Amendment was made as recommended by the Examiner in the February 18, 2010 Office Action, and to present rejected claims 1-5 and 10 in better form for consideration on appeal. The Amendment under 37 C.F.R. §41.33 was entered by an Advisory Action dated April 29, 2010.

## V. SUMMARY OF CLAIMED SUBJECT MATTER

Independent claim 1 is directed to a method of cleaning a tub of a washing machine, which is shown in the follow chart of Figure 2 and the diagram of Figure 3. As shown in Figures 2 and 3, the method comprises the steps of supplying water to a tub, washing a surface of the tub for the first time, soaking contaminants, washing the surface of the tub for the second time, and draining water from the tub. *Specification*, page 10, lines 9-11. The step of supplying water to a tub is progressed in state no laundry is introduced into the inner tub. *Specification*, page 10, lines 12-13. The inner tub is rotated when water is supplied to the tub. *Specification*, page 10, lines 17-18. The washing machine performs washing a surface of the tub for active water permeation into the contaminants. *Specification*, page 10, lines 21-23. The inner tub or a pulsator in the inner tub is rotated, which removes contaminants lightly stuck to the surface of the tub. *Specification*, page 11, lines 3, 6, and page 10, lines 23-24. The tub is left for a preset time period in a state the water is held in the tub. *Specification*, page 11, lines 20-21. Most of the contaminants are removed from the surface of the tub. *Specification*, page 12, lines 6-7. The water having the contaminants is discharged to an outside of the washing machine. *Specification*, page 12, lines 8-10.

Independent claim 2 is directed to a method of cleaning a tub of a washing machine, which is shown in the follow chart of Figure 2 and the diagram of Figure 3. As shown in Figures 2 and 3, the method comprises the steps of supplying water to a tub, washing a surface of the tub for the first time, soaking contaminants, washing the surface of the tub for the second time, draining water from the tub, and supplying water to a surface of the tub during draining. *Specification*, page 12, line 24 to page 13, line 2. The step of supplying water to a tub is progressed in state no laundry is introduced into the inner tub. *Specification*, page 10, lines 12-13. The inner tub is rotated when water is supplied to the tub. *Specification*, page 10, lines 17-18. The washing machine performs washing a surface of the tub for active water permeation into the contaminants. *Specification*, page 10, lines 21-23. The inner tub or a pulsator in the inner tub is rotated, which removes contaminants lightly stuck to the surface of the tub. *Specification*, page 11, lines 3, 6, and page 10, lines 23-24. The tub is left for a preset time period in a state the water is held in the tub. *Specification*, page 11, lines 20-21. Most of the contaminants are

removed from the surface of the tub. *Specification*, page 12, lines 6-7. The water having the contaminants is discharged to an outside of the washing machine. *Specification*, page 12, lines 8-10. By supplying water to the surface of the tub at the time water is draining from the tub to an outside of the washing water, re-sticking of the contaminants to the surface of the tub is prevented. *Specification*, page 13, lines 7-9.

Independent claim 3 is directed to a method of cleaning a tub of a washing machine, which is shown in the follow chart of Figure 2 and the diagram of Figure 3. As shown in Figures 2 and 3, the method comprises the steps of supplying water to a tub, washing a surface of the tub for the first time, soaking contaminants, washing the surface of the tub for the second time, draining water from the tub for the first time, supplying water to the tub for the second time, rinsing the surface of the tub, and draining water from the tub for the second time. *Specification*, page 14, lines 3-7. The step of supplying water to a tub is progressed in state no laundry is introduced into the inner tub. *Specification*, page 10, lines 12-13. The inner tub is rotated when water is supplied to the tub. *Specification*, page 10, lines 17-18. The washing machine performs washing a surface of the tub for active water permeation into the contaminants. *Specification*, page 10, lines 21-23. The inner tub or a pulsator in the inner tub is rotated, which removes contaminants lightly stuck to the surface of the tub. *Specification*, page 11, lines 3, 6, and page 10, lines 23-24. The tub is left for a preset time period in a state the water is held in the tub. *Specification*, page 11, lines 20-21. Most of the contaminants are removed from the surface of the tub. *Specification*, page 12, lines 6-7. The water having the contaminants is discharged to an outside of the washing machine. *Specification*, page 12, lines 8-10. By supplying water to the surface of the tub at the time water is draining from the tub to an outside of the washing water, re-sticking of the contaminants to the surface of the tub is prevented. *Specification*, page 13, lines 7-9. Water is supplied to the tub for the second time in a state the drain valve is closed. *Specification*, page 14, lines 10-11. A step of rinsing the surface of the tub is performed in a state the water is supplied to the tub for the second time. *Specification*, page 14, lines 13-14. After the step of rinsing is finished, water is drained from the tub to an outside of the washing machine. *Specification*, page 14, lines 18-19.

Independent claim 4 is directed to a method of cleaning a tub of a washing machine, which is shown in the follow chart of Figure 2 and the diagram of Figure 3. As shown in Figures



2 and 3, the method comprises the steps of supplying water to a tub, washing a surface of the tub for the first time, soaking contaminants, washing the surface of the tub for the second time, draining water from the tub for the first time, supplying water to the tub for the second time, rinsing the surface of the tub, draining water from the tub for the second time, and supplying water to a surface of the tub during the second time draining. *Specification*, page 14, lines 21-24. The step of supplying water to a tub is progressed in state no laundry is introduced into the inner tub. *Specification*, page 10, lines 12-13. The inner tub is rotated when water is supplied to the tub. *Specification*, page 10, lines 17-18. The washing machine performs washing a surface of the tub for active water permeation into the contaminants. *Specification*, page 10, lines 21-23. The inner tub or a pulsator in the inner tub is rotated, which removes contaminants lightly stuck to the surface of the tub. *Specification*, page 11, lines 3, 6, and page 10, lines 23-24. The tub is left for a preset time period in a state the water is held in the tub. *Specification*, page 11, lines 20-21. Most of the contaminants are removed from the surface of the tub. *Specification*, page 12, lines 6-7. The water having the contaminants is discharged to an outside of the washing machine. *Specification*, page 12, lines 8-10. By supplying water to the surface of the tub at the time water is draining from the tub to an outside of the washing water, re-sticking of the contaminants to the surface of the tub is prevented. *Specification*, page 13, lines 7-9. Water is supplied to the tub for the second time in a state the drain valve is closed. *Specification*, page 14, lines 10-11. A step of rinsing the surface of the tub is performed in a state the water is supplied to the tub for the second time. *Specification*, page 14, lines 13-14. After the step of rinsing is finished, water is drained from the tub to an outside of the washing machine. *Specification*, page 14, lines 18-19. By supplying water to the surface of the tub at the time water is draining from the tub to an outside of the washing water, re-sticking of the contaminants to the surface of the tub is prevented. *Specification*, page 13, lines 7-9, and page 14, lines 23-24.

Independent claim 5 is directed to a method of cleaning a tub of a washing machine, which is shown in the follow chart of Figure 2 and the diagram of Figure 3. As shown in Figures 2 and 3, the method comprises the steps of supplying water to a tub for the first time, washing a surface of the tub for the first time, soaking contaminants, washing the surface of the tub for the second time, draining water from the tub for the first time, supplying water to the surface of the tub during draining, supplying water to the tub for the second time, rinsing the surface of the tub, draining water from the tub for the second time, and supplying water to a surface of the tub

during the second time draining, and spinning the tub. *Specification*, page 15, lines 8-13. The step of supplying water to a tub is progressed in state no laundry is introduced into the inner tub. *Specification*, page 10, lines 12-13. The inner tub is rotated when water is supplied to the tub. *Specification*, page 10, lines 17-18. The washing machine performs washing a surface of the tub for active water permeation into the contaminants. *Specification*, page 10, lines 21-23. The inner tub or a pulsator in the inner tub is rotated, which removes contaminants lightly stuck to the surface of the tub. *Specification*, page 11, lines 3, 6, and page 10, lines 23-24. The tub is left for a preset time period in a state the water is held in the tub. *Specification*, page 11, lines 20-21. Most of the contaminants are removed from the surface of the tub. *Specification*, page 12, lines 6-7. The water having the contaminants is discharged to an outside of the washing machine. *Specification*, page 12, lines 8-10. By supplying water to the surface of the tub at the time water is draining from the tub to an outside of the washing water, re-sticking of the contaminants to the surface of the tub is prevented. *Specification*, page 13, lines 7-9. Water is supplied to the tub for the second time in a state the drain valve is closed. *Specification*, page 14, lines 10-11. A step of rinsing the surface of the tub is performed in a state the water is supplied to the tub for the second time. *Specification*, page 14, lines 13-14. After the step of rinsing is finished, water is drained from the tub to an outside of the washing machine. *Specification*, page 14, lines 18-19. By supplying water to the surface of the tub at the time water is draining from the tub to an outside of the washing water, re-sticking of the contaminants to the surface of the tub is prevented. *Specification*, page 13, lines 7-9, and page 14, lines 23-24. As step of spinning the tub is progressed by a method in which the tub, more specifically the inner tub is rotated at high speed. *Specification*, page 15, lines 16-17.

## **VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL**

1. Whether the rejection of claims 1-5, 7-35 and 41 is proper under 35 U.S.C. §112, first paragraph as failing to comply with the written description requirement.
2. Whether the rejection of claims 1-5, 7-35 and 41 is proper under 35 U.S.C. §112, second paragraph as being indefinite.
3. Whether the rejection of claims 1-5, 8, 9, 11-18, 20-30, 32, 35, and 41 is proper under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 3,70,376 to Sharpe (*Sharpe*).
4. Whether the rejection of claims 7, 10, 31, 33, and 34 is proper under 35 U.S.C. §103(a) as being unpatentable over *Sharpe* in view of KR 20010093969 to Kim (*Kim*).
5. Whether the rejection of claim 19 is proper under 35 U.S.C. §103(a) as being unpatentable over *Sharpe* in view of JP 2002346288 to Iwai et al. (*Iwai*).

## VII. ARGUMENT

**A. The rejection of claims 1-5, 7-35, and 41 under 35 U.S.C. §112, first paragraph, as failing to comply with the written description requirement is improper and should be reversed, as claims 1-5, 7-35 and 41 are fully supported by the specification.**

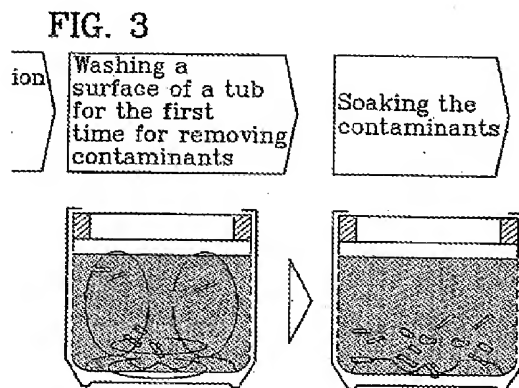
To satisfy the written description requirement, a patent specification must describe the claimed invention in sufficient detail that one skilled in the art can reasonably conclude that the inventor had possession of the claimed invention. See, M.P.E.P. §2163. The issue here can be phrased as whether the original application provides “adequate support” for the claim amendments or whether the amendments to claims incorporates “new matter” in violation of 35 U.S.C. 132.

The Office Action states that “Claims 1-5 include the new limitation that the step of soaking by holding the tub and pulsator stationary is performed *after* the step of removing by rotating the tub or pulsator is *completed* (lines 8 and 9 of each of claims 1-5), which lacks support in the specification as filed.” *Office Action Mailed February 18, 2010*, page 3, emphasis in original.

Appellant respectfully disagrees. The original filed specification provides “adequate support” for amended claims 1-5. Specifically, the specification first discloses that the washing machine performs washing a surface of the tub for active water permeation into the contaminants and an inner tub or a pulsator in the inner tub is rotated, which removes contaminants lightly stuck to the surface of the tub. *Specification*, page 10, lines 21-23, page 11, lines 3, 6, and page 10, lines 23-24. The specification then discloses that the step of soaking contaminants is performed by leaving the tub for a preset time period in a state when water is held in the tub. *Specification*, page 11, lines 20-21. It is logical that the step of soaking contaminants is performed after the step of washing the surface. More specifically, the specification discloses that after water is supplied to the tub, the pulsator or the inner tub is rotated, for a first time, to remove foreign matters lightly stuck to the surface of the tub. *Specification*, page 19, lines 22-25. Further, the specification discloses that after the washing of the surface of the tub for the first time, the pulsator or tube is left stationary for a predetermined time to soak the

contaminants. *Specification*, page 20, lines 1-5. Thus, disclosing the step of soaking contaminants after the step of washing the surface of the tub.

Additionally, Figure 3 shows the step of soaking the contaminants is performed after the step of washing a surface of a tub for the first time for removing contaminants. A part of Figure 3 is reproduced below.



Accordingly, claims 1-5, 7-35 and 41 are fully supported by the specification, and comply with the written description requirement. Appellant respectfully requests reversal of the rejection of claims 1-5, 7-35, and 41 under 35 U.S.C. §112, first prageraph, as failing to comply with the written description requirement.

**B. The rejection of claims 1-5, 7-35, and 41 under 35 U.S.C. §112, second paragraph, as being indefinite.**

The Office Action states that, in claims 1-5, the phrases “removing contaminants stuck to a surface of the tub,” “soaking the contaminants .. after removing contaminants .. is completed” and “separating soaked contaminants form the surface of the tub” render claims 1-5 indefinite. *Office Action Mailed February 18, 2010*, page 3.

Appellant submits that it is clear that “contaminants” recited in phrases of claims 1-5 are the same contaminants. Appellant will amend claims 1-5 by adding article “the” to “contaminants” to more clearly define claimed subject matter if it is required to place the claims in condition for allowance.

The Office Action also states that, in claims 3-5, the phrase “supplying clean water to the tub a second time” render claims 3-5 and 41 indefinite. *Office Action Mailed February 18, 2010*, page 3. The Office Action further stated “it is not clear which of the earlier recited supply steps, if any, is intended to be considered the first time.” *Office Action Mailed February 18, 2010*, page 4.

Appellant submits that it is apparent that cleaning a tub of a washing machine would use clean water and water and clean water are used interchangeably in claims 3-5 and 41. Appellant will amend “clean water” to “water” in claims 3-5 and 41 to more clearly define claimed subject matter if it is required to place the claims in condition for allowance. Furthermore, claims 3-5 all recites, “supplying water to a tub with rotating the tub” and “supplying clean water to the tub a second time.” It is evident that “supplying water to a tub with rotating the tub” refers to “a first time.” More specifically, as recited in claims 3-5, the supplying step in line 3 is directed to supplying water to the *tub*, while the supplying step in line 12 of the claims is directed to supplying water to the *surface of the tub*. Therefore, the second supplying step in line 12 can be distinguished from the first supplying step in line 3. For at least this reason, “supplying water to a tub” in line 3 of the claims is inevitably considered to be “a first time” in view of “supplying clean water to the tub a second time” in line 12, and thus claims 3-5 include the definite order with regard to “supplying water to the tub.”

Accordingly, claims 1-5, 7-35 and 41 clearly define claimed subject matter. Appellant will amend the claims if it is required to place the claims in condition for allowance.

**C. The rejection of claims 1-5, 8, 9, 11-18, 20-30, 32, 35, and 41 under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 3,770,376 to Sharpe (*Sharpe*) is improper and should be reversed, as Sharpe fails to teach or suggest all the elements of claims 1-5, 8, 9, 11-18, 20-30, 32, 35, and 41.**

To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. See MPEP §2143; *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). “All words in a claim must be considered in judging the patentability of that claim against the prior art.” *In re Wilson*, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970). If an independent claim is nonobvious under 35 U.S.C. §103, then any claim

depending therefrom is nonobvious. *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988).

### 1. Independent Claims 1-5

*Sharpe* does not teach or suggest each and every element recited in claims 1-5. Independent claims 1-5 are allowable over *Shape*, in that claims 1-5 similarly recite a combination of elements including, at least, “removing contaminants stuck to a surface of the tub by rotating a tub or a pulsator in the tub; soaking the contaminants for a predetermined time period by holding the tub and the pulsator stationary after removing contaminants by rotating the tube or the pulsator is completed.” Additionally, independent claims 3-5 are allowable over *Shape* in that claims 3-5 similarly recite a combination of elements including, at least, “supplying clean water to the tub a second time after draining water from the tub for the first time and supplying water to the surface of the tub are completed.”

The Office asserts that “*Sharpe* ... discloses the steps of: ... rotating the tub ... energizing the main motor after the water supply is completed ..., or soaking contaminants for a predetermined time period by holding the tub and agitator stationary.” *Office Action Mailed February 18, 2010*, page 4. The Office relies upon column 5, lines 34-39, 43 and 49-52 of *Sharpe* to support this assertion. *Id.* *Sharpe*’s soaking step as alleged by the Office, however, is performed during the water supply. *Sharpe* discloses that “the timer motor starts when the water fill is completed” and “[t]imer switch contact 1 is closed in the 20th impulse ... to energize the main motor 52 in a direction to provide agitation of the agitator 44.” *Sharpe* at col. 5:31-35. Therefore, as admitted by the office it is not until after this water supply is completed that the agitator is operated for the first time. See *Office Action Mailed February 18, 2010*, page 5. During *Sharpe*’s water supply or before the water supply, neither the agitator nor the tub is operated. Even if one of ordinary skill in the art were to construe *Sharpe*’s water supply as the soaking step recited by the claims, *Sharpe* still fails to teach or suggest “removing contaminants stuck to a surface of the tub by rotating a tub or a pulsator in the tub” which intervenes between the water supplying and the alleged soaking. Therefore, *Sharpe* fails to teach or suggest not only “removing contaminants stuck to a surface of the tub by rotating a tub or a pulsator in the tub”

but also “soaking the contaminants ... by holding the tub and the pulsator stationary after removing contaminants by rotating the tub or the pulsator is completed,” as recited in the claims.

Furthermore, the Office purports that *Sharpe*’s disclosure found in column 5, lines 43 and 49-52 discloses the removing step as recited in the claims. This portion of *Sharpe*’s disclosure, however, corresponds to a “Spin” portion of the “SANITIZE” cycle for draining a sanitizing solution in *Sharpe*. As clearly illustrated in Fig. 3, *Sharpe*’s removing step, as alleged by the Office, is also performed after *Sharpe*’s purported soaking step (i.e. the water supply). In other words, *Sharpe* merely discloses that the alleged soaking step is performed before the alleged removing step. Accordingly, *Sharpe* fails to teach or suggest “soaking the contaminants for a predetermined time period by holding the tub and the pulsator stationary after removing contaminants by rotating the tub or the pulsator is completed,” as recited in the claims.

Additionally, independent claims 3-5 further recite “supplying clean water to the tub a second time after draining water from the tub for the first time and supplying water to the surface of the tub are completed.” The Office purports that “*Sharpe* discloses spraying water to the tub, which reads on supplying water to the tub for a second time and rinsing the surface of the tub ... and draining water from the tub for a second time.” *Office Action Mailed February 18, 2010*, page 6. The Office relies on column 5, lines 46-52 and column 6, lines 37-38 of *Sharpe*’s disclosure to support this assertion. *Sharpe* discloses that “[d]uring the 23rd timer impulse, the timer switch contact 14 is closed to initiate a brief ... spray of fresh clean water” and “that the clean flushing water which is sprayed during the 23rd timer impulse is removed to drain during the spin portion of the ‘SANITIZE’ cycle.” *Sharpe* at col. 5:47-49 and col. 6:6-8. *Sharpe* discloses that “[t]he drain pump 76 operates to remove sanitizing solution to drain so long as the ‘SANITIZE’ cycle is in spin.” *Sharpe* at col. 6:6-8. Therefore, *Sharpe*’s supplying water for the second time, as alleged by the Office, is performed during the draining water step for the first time. Accordingly, *Sharpe* does not teach or suggest “supplying clean water to the tub a second time after draining water from the tub for the first time and supplying water to the surface of the tub are completed.”

While the Office admits that “*Sharpe* is silent regarding: no laundry is to be introduced into the tub, permeating water into the contaminants ...,” the Office insists that “selection of the



order of performing steps is prima facie obvious in the absence of new or unexpected results.” *Office Action Mailed February 18, 2010*, pages 4-5. Appellant respectfully disagrees. Appellant notes that the existing method “for clearing a tub of a washing machine has a low tub cleaning efficiency, not only to require an excessively long time period for the tub cleaning, but also to consume much power.” *Specification*, page 4, lines 22-24. Figures 4 and 5 show a comparison of “a case [where] the tub cleaning is performed according to the tub cleaning method [of] the present invention [which] can reduce a time period, and power consumption required for the tub cleaning [and] a case [where] the tub cleaning is performed according to the related art tub cleaning method even if the same tub cleaning effects are provided.” *Specification*, page 20, line 25 to page 21, line 4. Reduced washing time and power consumption are new and unexpected results. Thus, it would not have been obvious for one ordinary skill in the art to select the order of the performing steps.

Accordingly, for at least the foregoing reasons, Appellant respectfully requests reversal of the rejection of claims 1-5 under 35 U.S.C. §103(a) as being unpatentable over *Sharpe*.

## **2. Dependent Claims 8, 9, 11-18, 20-30, 32, 35, and 41**

Claims 8, 9, 11-18, 20-30, 32, 35, and 41 variously depend from independent claims 1-5, and are also allowable over *Sharpe* for at least the same reasons as claims 1-5.

Furthermore, the Office Action admits that “Sharpe does not explicitly teach” the elements of claims 9, 12, 16, 17, 21-28, 30, 32, 35, and 41. The Office Action then states it would have been obvious to one of ordinary skill in the art any way. For example, claim 23 recites, “the step of displaying an accumulated number of washing courses performed by the washing machine after of tub cleaning, and a target number of washing courses to be performed before the next tub cleaning on a display of the washing machine.” The Office Action admits that “Sharpe does not explicitly teach displaying a target number of the washing courses to be performed by the washing machine before the next tub cleaning on display of the washing machine.” *Office Action Mailed February 18, 2010*, page 10. The Office Action then states “it

would have been obvious to one of ordinary skill in the art at the time of the invention to display the target number when using the method as per the Sharpe teaching in order to enhance an operator's ability to ensure that the cleanings occur in a timely manner." *Id.* Here, the Office Action fails to provide articulated reasoning with some rational underpinning to support the legal conclusion of obviousness. See, *KSR Int'l v. Teleflex Inc.*, 550 U.S. 398, 418 (2007).

Accordingly, Appellant respectfully request reversals of the rejection of claims 8, 9, 11-18, 20-30, 32, 35, and 41 under 35 U.S.C. §103(a) as being unpatentable over *Sharpe*.

**D. The rejection of claims 7, 10, 31, 33, and 34 under 35 U.S.C. §103(a) as being unpatentable over *Sharpe* in view of KR 20010093969 to Kim (*Kim*) is improper and should be reversed, as the combined teaching of *Sharpe* and *Kim* fails to teach or suggest all the elements of claims 7, 10, 31, 33, and 34.**

Claims 7, 10, 31, 33, and 34 all depends from claim 1, and incorporate all the elements of claim 1. As discussed, *Sharpe* fails to teach or suggest at least the above-recited elements of claim 1. As set forth in the Office Action, *Kim* is used to disclose "a washing machine tub cleaning method wherein a water current is made to rise along the tub wall due to a rotating pulsator." *Office Action Mailed February 18, 2010*, page 13. *Kim* is also silent with respect to the above-recited elements of claim 1. Therefore, *Kim* fails to cure the deficiencies of *Sharpe* with respect to independent claim 1. Claim 1 and its dependent claims 7, 10, 31, 33, and 34 are allowable over the combined teaching of *Sharpe* and *Kim*.

Accordingly, Appellant respectfully request reversals of the rejection of claims 7, 10, 31, 33, and 34 under 35 U.S.C. §103(a) as being unpatentable over *Sharpe* and *Kim*.

**E. The rejection of claim 19 under 35 U.S.C. §103(a) as being unpatentable over *Sharpe* in view of JP 2002346288 to Iwai et al. (*Iwai*) is improper and should be reversed, as the combined teaching of *Sharpe* and *Iwai* fails to teach or suggest all the elements of claim 19.**

Claim 19 indirectly depends from claim 1, and incorporates all the elements of claim 1. As discussed, *Sharpe* fails to teach or suggest at least the above-recited elements of claim 1. As set forth in the Office Action, *Iwai* is used to disclose "a method of using a washing machine including a housing unit for use with a sterilizing agent which includes a hydantoin halide compound for releasing a hypohalogenic acid by water contact." *Office Action Mailed February*

18, 2010, pages 13-14. Therefore, *Iwai* fails to cure the deficiencies of *Sharpe* with respect to independent claim 1. *Iwai* is also silent with respect to the above-recited elements of claim 1. Claim 1 and its dependent claim 19 are allowable over the combined teaching of *Sharpe* and *Iwai*.

Accordingly, Appellant respectfully request reversals of the rejection of claim 19 under 35 U.S.C. §103(a) as being unpatentable over *Sharpe* and *Iwai*.

**CONCLUSION**

For all the above reasons, Appellant respectfully requests that this Honorable Board find as follows:

1. The rejection of claims 1-5, 7-35 and 41 under 35 U.S.C. §112, first paragraph as failing to comply with the written description requirement should be reversed.
2. The rejection of claims 1-5, 7-35 and 41 under 35 U.S.C. §112, second paragraph as being indefinite should be withdrawn.
3. The rejection of claims 1-5, 8, 9, 11-18, 20-30, 32, 35, and 41 under 35 U.S.C. §103(a) as being unpatentable over *Sharpe* should be reversed.
4. The rejection of claims 7, 10, 31, 33, and 34 under 35 U.S.C. §103(a) as being unpatentable over *Sharpe* in view of *Kim* should be reversed.
5. The rejection of claim 19 under 35 U.S.C. §103(a) as being unpatentable over *Sharpe* in view of *Iwai* should be reversed.

The Claims Appendix contains the set of claims involved in the present appeal. The Office is hereby authorized to charge any fees, including the fees required under 37 C.F.R. § 1.17(f), any additional fees required under 37 C.F.R. §§ 1.16, 1.17, and/or 1.136, for any necessary extension of time, or any other fees required to complete the filing of this Appeal Brief, to Deposit Account No. 50-0911. Please credit any overpayment to deposit Account No. 50-0911.

Respectfully submitted,

Dated: **June 15, 2010**

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**CLAIMS APPENDIX**

**Claims Involved In The Appeal of Application No. 11/516,604. The Amendments under 37 C.F.R. 41.33 filed on April 21, 2010 are incorporated in the claims.**

1. A method for cleaning a tub of a washing machine, comprising the steps of:  
supplying water to a tub with rotating the tub without introduction of laundry into the tub,  
wherein supplying water and rotating the tub are performed at the same time;  
permeating water into contaminants;  
removing contaminants stuck to a surface of the tub by rotating a tub or a pulsator in the tub;  
soaking the contaminants for a predetermined time period by holding the tub and the pulsator stationary after removing contaminants by rotating the tub or the pulsator is completed;  
separating soaked contaminants from the surface of the tub; and  
draining water from the tub.
2. A method for cleaning a tub of a washing machine, comprising the steps of:  
supplying water to a tub with rotating the tub without introduction of laundry into the tub,  
wherein supplying water and rotating the tub are performed at the same time;  
permeating water into contaminants;  
removing contaminants stuck to a surface of the tub by rotating a tub or a pulsator in the tub;  
soaking the contaminants for a predetermined time period by holding the tub and the pulsator stationary after removing contaminants by rotating the tub or the pulsator is completed;  
separating soaked contaminants from the surface of the tub;  
draining water from the tub; and  
supplying water to the surface of the tub during draining thereby preventing re-sticking of the contaminants to the surface of the tub.
3. A method for cleaning a tub of a washing machine, comprising the steps of:

supplying water to a tub with rotating the tub without introduction of laundry into the tub, wherein supplying water and rotating the tub are performed at the same time;  
permeating water into contaminants;

removing contaminants stuck to a surface of the tub by rotating a tub or a pulsator in the tub;

soaking the contaminants for a predetermined time period by holding the tub and the pulsator stationary after removing contaminants by rotating the tub or the pulsator is completed;

separating soaked contaminants from the surface of the tub;

draining water from the tub a first time;

supplying water to the surface of the tub during the step of draining water from the tub for a first time thereby preventing re-sticking of the contaminants to the surface of the tub;

supplying clean water to the tub a second time after draining water from the tub for the first time and supplying water to the surface of the tub are completed;

rinsing the surface of the tub; and

draining water from the tub for a second time.

4. A method for cleaning a tub of a washing machine, comprising the steps of:

supplying water to a tub with rotating the tub without introduction of laundry into the tub, wherein supplying water and rotating the tub are performed at the same time;

permeating water into contaminants;

removing contaminants stuck to a surface of the tub by rotating a tub or a pulsator in the tub;

soaking the contaminants for a predetermined time period by holding the tub and the pulsator stationary after removing contaminants by rotating the tub or the pulsator is completed;

separating soaked contaminants from the surface of the tub;

draining water from the tub a first time;

supplying water to the surface of the tub during the step of draining water from the tub for the first time thereby preventing re-sticking of the contaminants to the surface of the tub;

supplying clean water to the tub for a second time after draining water from the tub for the first time and supplying water to the surface of the tub are completed;

rinsing the surface of the tub;

draining water from the tub for a second time; and

supplying water to the surface of the tub during the step of draining water from the tub for the second time thereby preventing re-sticking of the contaminants to the surface of the tub.

5. A method for cleaning a tub of a washing machine, comprising the steps of:  
supplying water to a tub with rotating the tub without introduction of laundry into the tub, wherein supplying water and rotating the tub are performed at the same time;  
permeating water into contaminants;  
removing contaminants stuck to a surface of the tub by rotating a tub or a pulsator in the tub;  
soaking the contaminants for a predetermined time period by holding the tub and the pulsator stationary after removing contaminants by rotating the tub or the pulsator is completed;  
separating soaked contaminants from the surface of the tub;  
draining water from the tub for a first time;  
supplying water to the surface of the tub during the step of draining water from the tub for the first time thereby preventing re-sticking of the contaminants to the surface of the tub;  
supplying clean water to the tub for a second time after draining water from the tub for the first time and supplying water to the surface of the tub are completed;  
rinsing the surface of the tub;  
draining water from the tub for a second time;  
supplying water to the surface of the tub during the step of draining water from the tub for the second time thereby preventing re-sticking of the contaminants to the surface of the tub;  
and rotating the tub at a high speed thereby removing water from the surface of the tub.

6. (Canceled)

7. The method as claimed in claim 1, wherein the step of permeating water comprises rotating a pulsator provided in the tub for forming a water circulation.

8. The method as claimed in claim 1, wherein the step of permeating water further includes rotating the tub for forming a water circulation.

9. The method as claimed in claim 1, wherein the step of permeating water further includes rotating the tub at a high speed thereby circulating water in a radial direction of the tub.

10. The method as claimed in claim 1, wherein the step of permeating water further includes rotating a pulsator and rotating the tub at a low speed.

11. The method as claimed in claim 2, wherein the step of supplying water to the surface of the tub is performed during a later half of the draining step.

12. The method as claimed in claim 2, wherein the step of supplying water to the surface of the tub further includes rotating the tub while water is supplied to the tub.

13. The method as claimed in claim 2, wherein the step of supplying water to the surface of the tub further includes spraying water to the surface of the tub.

14. The method as claimed in claim 1, further comprising the step of rotating the tub at a high speed thereby removing water from the surface of the tub.

15. The method as claimed in claim 1, further comprising the step of introducing a bleaching agent into the tub during supplying the water to the tub such that the water and the bleaching agent are supplied to the tub together.

16. The method as claimed in claim 15, wherein the bleaching agent is an oxygen group bleaching agent.

17. The method as claimed in claim 15, wherein the bleaching agent is a halide group bleaching agent.

18. The method as claimed in claim 1, further comprising the step of introducing at least one sterilizing agent and a fungicidal agent.



19. The method as claimed in claim 18, wherein the sterilizing agent is halogenated hydantoin compound that emits hypohalogenated acid.

20. The method as claimed in claim 1, further comprising the step of displaying a tub cleaning course which is under progress on a display of the washing machine during tub cleaning.

21. The method as claimed in claim 1, further comprising the step of displaying an accumulated number of washing courses performed by the washing machine after tub cleaning on a display of the washing machine.

22. The method as claimed in claim 1, further comprising the step of displaying an accumulated number of washing courses performed by the washing machine after of tub cleaning, and a target number of washing courses to be performed before the next tub cleaning on a display of the washing machine.

23. The method as claimed in claim 22, wherein the target number can be changed.

24. The method as claimed in claim 22, wherein the steps of tub cleaning are performed when a user manually selects a tub cleaning course when the accumulated number of washing courses reaches the target number of washing courses.

25. The method as claimed in claim 22, wherein the steps of tub cleaning are performed automatically when the accumulated number of washing courses reaches the target number of washing courses.

26. The method as claimed in claim 1, further comprising the step of setting a mode where a user manually selects a tub cleaning course when the accumulated number of washing courses performed by the washing machine displayed on the display of the washing machine reaches a target number of washing courses to be performed before the next tub cleaning.

27. The method as claimed in claim 1, further comprising the step of setting a time to automatically perform a tub cleaning at the washing machine.

28. The method as claimed in claim 1, further comprising the step of setting a mode where tub cleaning automatically progresses.

29. The method as claimed in claim 1, wherein the step of separating contaminants further includes rotating the tub for forming a water circulation.

30. The method as claimed in claim 1, wherein the step of separating contaminants further includes rotating the tub at a high speed thereby circulating water in a radial direction of the tub.

31. The method as claimed in claim 1, wherein the step of permeating water further includes rotating a pulsator and rotating the tub at a high speed.

32. The method as claimed in claim 1, wherein the step of permeating water further includes rotating the tub at a low speed and rotating the tub at a high speed.

33. The method as claimed in claim 1, wherein the step of separating contaminants further includes rotating a pulsator and rotating the tub at a low speed.

34. The method as claimed in claim 1, wherein the step of separating contaminants further includes rotating a pulsator and rotating the tub at a high speed.

35. The method as claimed in claim 1, wherein the step of separating contaminants further includes rotating the tub at a low speed and rotating the tub at a high speed.

36. (Canceled)

37. (Canceled)

38. (Canceled)

39. (Canceled)

40. (Canceled)

41. The method as claimed in any one of claims 3-5, wherein supplying the clean water to the tub for the second time is performed after the water is completely drained from the tub.

**EVIDENCE APPENDIX**

**Evidence:**

None.

**RELATED PROCEEDINGS APPENDIX**

**Related Proceedings:**

None.